



Quality Enhancement Research Initiative

Spinal Cord Injury

Spinal Cord Injury

Recent estimates in the United States indicate that approximately 207,000 individuals have some type of spinal cord injury and disease (SCI&D) that significantly affects their life activities. Of these, almost 22,800 receive care within the VA health care system. While considered a highly heterogeneous population, these individuals face common obstacles and barriers following disability in relation to attainment of their independent living and quality of life aspirations.

SCI&D is not a single health care problem or specific disease but a lifelong condition. Like many other groups of people who live with severe chronic disease, individuals with SCI&D live with a condition that cannot be cured, requiring ongoing management of impairments and prevention of SCI-related secondary complications. Another important fact is that between one-half to three-quarters of these individuals are unemployed. This is particularly significant because most are injured at a young age (almost 60% are < 30 years of age at onset). The direct and indirect costs of care for persons with SCI&D are extremely high, at an estimated \$9.7 billion per year.

Today, people with SCI&D are living longer than ever before - more than 25 percent of individuals with SCI&D have had their injury for more than 20 years and approximately half are older than 50 years of age. This increased life expectancy and consequent aging of the SCI population is associated with an increased prevalence of common chronic diseases. Therefore, it is essential to provide both preventive and specialty medical services that improve length and quality of life, promote

healthy aging, and address the chronic impairments associated with SCI&D.

The QUERI-SCI mission is to identify and address knowledge gaps, promote research, and conduct activities that improve lifelong medical care, health-related quality of life, and community integration of individuals with SCI&D. Three high-risk or high-cost problems have been the focus of QUERI-SCI: respiratory impairments, pressure ulcers, and chronic pain because in the SCI&D population -

- Respiratory illnesses are common causes of morbidity and mortality;
- Pressure ulcers account for significant morbidity, deaths, hospital days, and costs; and
- Chronic pain is a long-standing problem for many.

QUERI-SCI Projects and Findings

QUERI-SCI has modified the chronic care model developed by Wagner and colleagues to apply to SCI&D preventive, chronic, and specialty-based care. This new conceptual model, labeled the SCI&D Lifelong Care Model, is designed to ensure patient-centered care that is safe, efficient, effective, timely, and

equitable. Central tenets of this model include the creation and support of an organizational structure and an environment that promotes quality interactions and partnerships between practitioners and patients.

A major goal of the model is to develop a system of planned care that is evidence-based, patient-centered, and system-minded for preventive and sustaining care for the multiple impairments experienced by people with SCI&D. Interventions will concentrate in the following major areas: self-management support, delivery system design, decision support, and clinical information systems.

Self-management support emphasizes the patient's central role in health care and utilizes collaboratively set goals, problem-solving, and motivational interviewing. Delivery system design recognizes the need to implement system-level changes at multiple levels. Decision support integrates evidence-based guidelines and care into daily clinical practice, and clinical information systems are used to provide useful and timely information for both providers and patients.

The QUERI-SCI Executive Committee

Each QUERI Executive Committee is co-chaired by a research expert and a clinician. The Research Coordinator is **Frances Weaver, PhD**, and the Co-Clinical Coordinators are **Barry Goldstein, MD, PhD**, and **Margaret Hammond, MD**. QUERI-SCI's Executive Committee includes additional experts in the field of spinal cord injury: Vivian Beyda, DrPH; Stephen Burns, MD; Eileen Collins, PhD, RN; Fred Cowell; Susan Garber, MA, OTR, FAOTA; Ronald J. Gironda, PhD, MA; Jennifer Hastings, PT, MS, NCS; Helen Hoenig, MD; **Marcia W. Legro, PhD**, (Implementation Research Coordinator); Audrey Nelson, PhD, RN; Michael Priebe, MD; Arthur M. Sherwood, PE, PhD; Ann M. Spungen, EdD; and Deborah Wilkerson, MA.

A successful end result of these efforts will be informed, empowered patients working collaboratively with prepared, proactive health care teams that increase health care quality for persons with SCI&D.

Additional QUERI-SCI research

- *Respiratory Impairments:* Current work is focused on increasing influenza and pneumococcal pneumonia vaccinations in the SCI&D population. Vaccination rates of veterans with SCI&D have improved to match the rate of the general VA population. In addition, the VA's policy on influenza vaccinations now includes SCI&D as a high-risk category. Future plans to address pulmonary impairments include tobacco cessation, management of community-acquired pneumonia, sleep apnea, improved cough, and elimination of pulmonary secretions.
- *Pressure Ulcers:* QUERI-SCI investigators have developed and are promoting efforts to identify intervention strategies that reduce

the frequency and seriousness of pressure ulcers. Another project is being planned to improve documentation of pressure ulcer characteristics through standardization of data collection.

- *Chronic Pain:* There is a limited evidence base for the treatment of chronic pain following spinal cord injury. QUERI-SCI team members are reviewing high quality research about pain definition, assessment, and treatment, and gaining a clearer understanding of current pain management practices in the VA SCI&D population.
- *Preventive Care:* Using evidence from preventive care research, QUERI-SCI will begin to close the gap in preventive care services that occurs in disabled and chronically ill populations, including SCI&D. Topics under consideration include depression screening, management of diabetes, and management of cholesterol.

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QUERI currently focuses on nine conditions that are prevalent and high-risk among veteran patients: Chronic Heart Failure, Colorectal Cancer, Diabetes, HIV/AIDS, Ischemic Heart Disease, Mental Health, Spinal Cord Injury, Stroke, and Substance Use Disorders.

The QUERI Process

The QUERI process includes six steps:

- 1) identify high-risk/high volume diseases or problems;
- 2) identify best practices;
- 3) define existing practice patterns and outcomes across VA and current variation from best practices;
- 4) identify and implement interventions to promote best practices;
- 5) document that best practices improve outcomes; and
- 6) document that outcomes are associated with improved health-related quality of life.

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